

## CLAIMS

What is claimed is:

- 5           1.     A method for planning stimulation of hyper/hypometabolic cortical areas, said method comprising:
  - determining anatomical patient data using an imaging method;
  - detecting positions of (i) the hyper/hypometabolic cortical areas in a patient's anatomy and (ii) a position of a stimulator;
  - 10           at least one of (i) registering and (ii) referencing the position of the hyper/hypometabolic cortical areas with respect to the position of the stimulator; and
  - determining an optimal positioning for the stimulator on the basis of the relative positional information.
- 15           2.     The method as set forth in claim 1, wherein the detecting step is performed using a medical navigation system.
3.     The method as set forth in claim 1, wherein the stimulation is  
20   planned of hypermetabolic areas related to the manifestation of systemic tinnitus.
4.     The method as set forth in claim 1, wherein the step of determining anatomical patient data includes:
  - determining functional anatomical data using a functional image detection  
25   method; and
  - determining structural anatomical data.
5.     The method as set forth in claim 4, further comprising:
  - navigationally registering the functional anatomical data with the structural  
30   anatomical data using a computer-assisted matching method such that the functional anatomical data are available for navigation.

6. The method as set forth in claim 4, wherein the functional image detection method includes at least one of (i) functional magnetic resonance detection and (ii) positron emission tomography (PET).

5 7. The method as set forth in claim 1, wherein the detecting step includes using a navigation system to optically detect arrangements of actively or passively emitting markers arranged on the patient's head and on the stimulation means.

10 8. The method as set forth in claim 1, wherein the detecting step includes using a navigation system to magnetically or inductively detect (i) at least one of (a) positional coils and (b) oscillating circuits, arranged on the patient's head and on the stimulator.

15 9. The method as set forth in claim 1, wherein the stimulator includes a cortical stimulation coil.

10. The method as set forth in claim 2, further comprising:  
outputting detected navigational data together with the determined optimal  
20 positioning on an image output.

11. The method as set forth in claim 1, further comprising:  
calibrating the stimulator.

25 12. The method as set forth in claim 1, further comprising:  
simulating a field distribution for the stimulator; and  
determining stimulation areas based on the simulated field distribution.

30 13. A program which, when it is run on a computer or is loaded onto a computer, causes the computer to perform a method in accordance with claim 1

14. A computer program storage medium comprising a program as set forth in claim 13.